

ABSTRACT OF THE DISCLOSURE

A scanning probe microscope has an XY scanner for making a probe scan a sample surface, an approach and separate drive element for making the probe approach to the sample surface at a sampling position and separate the probe from the sample surface during movement between the sampling positions, and a servo controller for holding the distance between the probe and the sample surface at a reference distance during measurement at the sampling position. A plurality of scattered measurement locations are set away from each other as sampling positions. The approach and separation movements are performed at each sampling position. When measuring the surface by the probe at a sampling position and while making the probe move between sampling positions, servo control by the servo controller is continued. This makes it possible to quickly measure the surface by a simple controller and possible to measure a wide area or measure a high aspect ratio. When making the probe approach to the sample surface for measurement at the sampling position, it is also possible to cause a scan motion for tandem movement at an equal speed and in the same direction as the scan motion by the XY scanner.